

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An exhaust gas processing device comprising, in order from the upstream side of an exhaust gas flow direction, at least a nonleak-type gas-gas heater heat recovery unit, an absorption tower, a mist eliminator, and a nonleak-type GGH reheat for circulating a heat medium with respect to the heat recovery unit arranged in a duct for exhaust gas discharged from a fire furnace, wherein

a heat suppression device for suppressing dissipated heat from the nonleak-type gas-gas heater reheat is arranged in an exhaust gas duct between the mist eliminator and nonleak-type gas-gas heater reheat, the heat suppression device consisting of one or more of the following configurations:

(a) a configuration wherein the exhaust gas duct between the mist eliminator and the gas-gas heater reheat is provided with a blow-off device configured to discharge heated gas from the inside of the exhaust gas duct to the outside of the exhaust gas duct;

(b) a configuration wherein a thermometer for measuring ambient air temperature of the inside of the exhaust gas duct is located in the exhaust gas duct between the mist eliminator and the gas-gas heater reheat, and a spray nozzle pipeline for washing at least one of an element of the mist eliminator and an exhaust gas duct inner wall surface and the periphery thereof with a washing liquid, which is activated when

the thermometer reads a temperature greater than or equal to a set temperature, and an opening/closing valve of this pipeline are arranged at, of a front surface side and a rear surface side of the mist eliminator, at least the front surface side; and

(c) a configuration wherein at least one of a heat-resistant resin material and a corrosion preventive lining material resistant to dissipated heat from the gas-gas heater re heater during a shutdown of the absorption tower is provided on at least one of an element of the mist eliminator, an absorption tower outlet duct, an exhaust gas duct between the absorption tower and mist eliminator, and an exhaust gas duct between the mist eliminator and the gas-gas heater re heater.

2. (Original) The exhaust gas processing device as set forth in Claim 1, wherein a steam-gas heater is provided in the exhaust gas duct between the mist eliminator and nonleak-type gas-gas heater re heater, and a heat suppression device for suppressing dissipated heat from the steam-gas heater is provided in the exhaust gas duct between the mist eliminator and steam-gas heater.

3-4 (canceled).

5. (Original) The exhaust gas processing device as set forth in Claim 1, wherein

the absorption tower is a two-chamber-type absorption tower provided with

(a) a circulation tank for retaining of an absorption liquid, and
(b) spray nozzles in respective regions, while an inlet duct for introducing exhaust gas discharged from a combustion device such as a boiler in almost a horizontal direction and an outlet duct for discharging exhaust gas in almost a horizontal direction are provided above this circulation tank, an exhaust gas channel is provided between the inlet duct and outlet duct, a partition plate stood in a vertical direction having an opening portion at a ceiling portion side to divide this exhaust gas channel into two chambers of an inlet duct side and an outlet duct side is provided, and an ascending current region where exhaust gas introduced from the inlet duct flows upward and a descending current region where exhaust gas flows downward toward the outlet duct after reversing at the opening portion of the ceiling side are formed by this partition plate, so that an ejecting absorption liquid slurry makes countercurrent contact with exhaust gas in the ascending current region and makes parallel-current contact in the descending current region.

6-7 (canceled)

8. (new) A method for processing an effluent gas along an exhaust gas flow passage of exhaust gas discharged from a fire furnace, the method comprising:

- (a) recovering heat from the exhaust gas with a nonleak gas-gas heater heat recovery unit;
- (b) absorbing sulfur oxides in the exhaust gas with an absorption tower;
- (c) eliminating liquid droplets of the exhaust gas with a mist eliminator;
- (d) raising the exhaust gas temperature with a nonleak gas-gas heater reheater for circulating a heat medium with respect to the heat recovery unit; and
- (e) discharging the exhaust gas outwardly, wherein during a shutdown of the absorption tower, discharging heated gas dissipated from the gas-gas heater reheater, from the exhaust gas flow passage between the mist eliminator and the gas-gas heater reheater outside of the exhaust gas flow passage.

9. (New) A method for processing an effluent gas along exhaust gas flow passage of exhaust gas discharged from a fire furnace, the method comprising:

- (a) recovering heat from the exhaust gas with a nonleak gas-gas heater heat recovery unit;
- (b) absorbing the sulfur oxides in the exhaust gas with an absorption tower;
- (c) eliminating liquid droplets of the exhaust gas with a mist eliminator;
- (d) raising the exhaust gas temperature with a nonleak gas-gas heater reheater for circulating a heat medium with respect to the heat recovery unit; and
- (e) discharging the exhaust gas outwardly, wherein during a shutdown of the absorption tower, measuring a temperature of inner ambient air of the exhaust gas flow passage between the mist eliminator and the gas-gas heater

reheater, and then washing the element of the mist eliminator and the periphery thereof when the measured temperature becomes greater or equal to a set value.